CASE STUDY

MSD Carlow:
QBMS and nQBMS Design & Commissioning

Established in 2007, MSD Carlow is a state of the art, 200,000 sqft biologics operation in which €220 million was invested. When fully operational the facility expects to employ 170 people at Carlow.

There were two main elements to the construction of this facility:

- **VBSF Production Building** (Labs & Grade C&D cleanrooms). This was a modular design which was fully fabricated & assembled in Estonia, shipped in modules over sea/road and re-assembled on site in Carlow.
- **MMSF Energy Centre** (Labs, Warehouse & Black Utilities). This section was constructed on site in the traditional way.

The Solution

The Siemens Building Management System (BMS) consists of:

- 31 Outstation panels, housing 37 Siemens PX controllers, divided into 2 systems QBMS & nQBMS.
- These controllers communicate via BACnet over IP (Ethernet).
- Both systems are deployed on virtual server arrangements.
- The QBMS consists of 14 Air Handling Units, complete with temperature, humidity, pressure control & quality critical environmental alarming.
- The cold-rooms, incubators & freezers are also environmentally monitored by the QBMS.
- Each system has alarm functionality, logging & archiving, executed by the Siemens Desigo user interface.
- All systems on the QBMS are fully validated and have passed AIQ, SAT, OQ & PQ Testing.
- All of the environmental data on the QBMS is also sent to the PI historian for archiving.

The nQBMS consists of 1 single server controlling 2 Air Handling units for Facilities & support areas complete with 24 Siemens Unitary VAV controllers for the office & changing areas.

The nQBMS control & monitoring of the Black utilities consists of LPHW, CHW, Steam, Process water, Waste Neutralization, Electrical MCC & Fire Sprinkler Systems.

The nQBMS also interfaces with a large portion of these systems over the Modbus Protocol to record, log and archive additional vital information used in the day to day operation of the facility.

All systems on the nQBMS are logged and archived by the Siemens Desigo Software.

The Result

In the event of a site power failure or Disaster recovery, The BAS can be initiated to execute fully controlled recovery of all QBMS & nQBMS systems. This is timed, monitored and fully verified by the BAS on site.

This project was very successfully delivered, to high MSD expectations, by Sirus.